

Notice of Allowability

Application No.

10/088,205

Examiner

Linh M. Nguyen

Applicant(s)

TAKEO ET AL.

Art Unit

2816

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed 10/30/03.
2. ☒ The allowed claim(s) is/are 1, 2, 6-10, 12 and 14.
3. ☒ The drawings filed on 10/30/03 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
 - * Certified copies not received: _____.
5. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
 - (a) ☐ The translation of the foreign language provisional application has been received.
6. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

7. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
8. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No. _____.
 - (b) ☐ including changes required by the proposed drawing correction filed _____, which has been approved by the Examiner.
 - (c) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No. _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the margin according to 37 CFR 1.121(d).

9. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|--|
| 1 <input type="checkbox"/> Notice of References Cited (PTO-892) | 5 <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2 <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6 <input checked="" type="checkbox"/> Interview Summary (PTO-413), Paper No. <u>121003</u> |
| 3 <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No. _____ | 7 <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4 <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material | 8 <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9 <input type="checkbox"/> Other _____ |

Linh M. Nguyen
Examiner
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DETAILED ACTION

This is a reply to the Applicant's amendment submitted on 10/30/2003. In this amendment claims 11, 13 and 15 are cancelled; thus, claims 1-2, 6-10, 12, and 14, and non-elected claims 3-5 are now presented in the instant application.

Examiner's Amendment

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it must be submitted no later than the payment of the issue fee.

Claims 3-5 are non-elected claims, which are required to be canceled in order to place the instant application in condition for allowance.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Vincent M. DeLuca on 12/09/2003.

CLAIMS:

- A. Non-elected claims 3-5 are canceled.
- B. Claim 7, line 8, change "delay d" to --delayed--.

Allowable Subject Matter

1. Claims 1-2, 6-10, 12 and 14 are allowed.

Reasons for Allowance

2. The following is an examiner's statement of reasons for allowance:

The closest prior art fails to disclose or fairly suggest at least one reason for each corresponding claim listed as follows:

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1) an output $V_o(t)$ of the phase detector circuit represented by: $V_o(t) = (V_i(t) - V_i(t-T)) \times V_i(t - \theta T/2\pi)$, where the signal $V_i(t-T)$ is delayed from the signal $V_i(t)$ by the period T of the signal $V_i(t)$, as called for in independent claim 1;

2) a multiplier circuit for outputting a product of another input random NRZ signal having the same pattern as that of the input random NRZ signal and the phase difference and an output of the subtracter circuit, as called for in claims 2 and 6;

3) an output $V_o(t)$ of the phase detector circuit represented by: $V_o(t) = (V_i(t) - V_i(t-(T-\theta T))) \times V_i(t - \theta T/2\pi)$, where the signal $V_i(t-(T-\delta T))$ is delayed from the signal $V_i(t)$ by the time of $(T-\delta T)$, which is shorter than the period T of the signal $V_i(t)$, as called for in independent claim 7; and

4) an arithmetic operation performed by a combination of one multiplier circuit and a subtracter circuit, configured in a phase detector circuit, only on the input random (Non-Return-To-Zero) signal, the delayed signal, and the second signal to produce an output signal having a DC voltage component corresponding to the phase difference, as called for in independent claim 8.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

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Inquiry

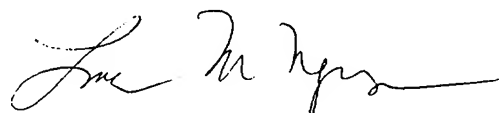
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Linh M. Nguyen whose telephone number is (703) 305-0414. The examiner can normally be reached on Alternate Mon, Tuesday - Friday from 7:00 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy P Callahan can be reached on (703) 308-4876. The fax phone number for the organization where this application or proceeding is assigned is (703) 305-0142.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Linh M. Nguyen
Examiner
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LMN

A handwritten signature in black ink, appearing to read 'Linh M. Nguyen', with a long horizontal flourish extending to the right.